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KANT'S THEORY OF THE A PRIORI FORMS OF SENSE.

THE problem of the *Critique* is the possibility of *a priori* knowledge. For the solution Kant claims the merit of absolute demonstration from principles *a priori*. This claim, on general considerations, we have shown to be a usurpation which nothing can legitimize. It is a significant corroboration of this criticism that while the entire system, in its organization, constitution, and complexion, is determined by the opposition and correlation of sense and understanding, that distinction itself is nowhere established. We are simply told "that there are two stems of human knowledge, which perhaps may spring from a common root, unknown to us, namely sensibility and understanding."[1] In our consciousness, however they may lie below it, the functions of these two "stems" are perfectly distinct and separate. Like the sexes, the one is characterized by passivity, the other by activity. Receptivity is the function of sense, spontaneity ot understanding. By the former, objects are given, by the latter, they are thought. The various kinds of *a priori* knowledge, therefore, are all conditioned by the different forms of relation into which these two factors enter with one another. And the *Critique*, following custom rather than any particular method, begins with the consideration of sensibility. The determination of space and time as the *a priori* forms of sense-perception, the explanation of mathematics as the apodictic science of these forms, and the demonstration of the subjective or phenomenal character of all spatial and temporal objects, form the subject-matter of Kant's doctrine of sense, or what in scholastic terminology he calls the *Transcendental Æsthetic*.

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[1] Introduction to *Critique*, III, 52 (13).

Of the main problems of the *Critique*, the *Æsthetic* takes up the question, How is pure mathematics possible? It furnishes a solution of this question, along with a proof of the presupposition on which that solution depends, and of the consequences to which it leads. What especially calls for explanation is the objective validity of this class of knowledge, which, as we have already seen, Kant holds to be *a priori*, or mind-originated, because it is absolutely certain and necessary. But here, as in every case of *a priori* judgments, we must inquire also into the grounds of the possibility of synthesis between subject and predicate. And with this inquiry it will be more convenient to begin.

Earlier thinkers had escaped this problem by treating mathematics as a system of analytic judgments. Given concepts (definitions) of the various geometrical figures, they regard the demonstrations of their properties and relations as mere acts of logical analysis. It is the merit of Kant, though Descartes and Locke may have anticipated his classification of judgments into analytic and synthetic, to have first discovered the true character of mathematics as a body of synthetic propositions, and to have pushed into the foreground of modern philosophy the problems of the possibility of synthesis. Now, whatever else may be necessary for genuine synthesis, its *sine qua non* is perception. Thought alone is inadequate to its production. "In the whole domain of pure reason, in its purely speculative use, there does not exist a single directly synthetical judgment based on concepts."[1] The synthetical judgments of mathematics, on the other hand, depend upon "the *construction* of concepts,"[2] that is, upon acts of perception which enter alike into definitions, axioms, and demonstrations. But these percepts in which the concepts of mathematics are presented cannot be empirical, for,

[1] III, 491 (631).

[2] III, 478 (611).

though empirical perception would account for synthesis in certain synthetic judgments, it could not produce the absolutely apodictic and necessary synthesis of mathematical judgments, a synthesis which is, in fact, "*before all experience* or individual perception."[1] If then mathematical, like all other synthesis, depends upon perception, and yet is independent of empirical perception (actual measuring or counting), we cannot escape the conclusion "that *some pure* [*i. e.*, *a priori*] *perception* must form its basis, in which all mathematical concepts can be exhibited or constructed *in concrete* and yet *a priori*." [1] This, since mathematics gives us apodictic synthetic truths, is "the first and highest condition of its possibility."[1]

But is this supreme condition actually fulfilled? How is it possible for the perception of an object to precede the object itself? Are not all perceptions furnished us by sensibility—which is just the capacity of receiving such presentations according as we are affected by objects? And, if so, where is there room left for pure or *a priori* perceptions? Manifestly only as 'forms' into which the 'matter' brought by the senses from the object is received. "The matter only of all phenomena is given us *a posteriori*; but their form must be ready for them in the mind *a priori*."[2] In these forms, then, which, as belonging to sense are perceptive, and as sense-inherent, not sense-derived, are *a priori*, we have the supreme condition for the synthesis of mathematical judgments. Their objective validity is a different question, which is to be explained later.

The pure forms of perception are not deduced, or their number determined, from any ultimate principle, as Kant's boast of method would lead one to suppose. It is simply asserted that "space and time are the perceptions which pure mathematics lays at the foundation of all its cognitions."[3] And if pure mathematics is to be explained, space and time at least must be shown to be *a priori* perceptions. That they are so, the *Critique* proves by arguments adopted from the *Dissertation* of 1770, which again were anticipated, in the case of space at least, by the essay of 1768, *On the First Ground for the Distinction of Regions in Space.* The demonstration consists of an analysis of the ideas themselves. Space and time, it is held, cannot be derived from experience, for unless they were already implied in experience *a priori*, it would have nothing from which we could possibly derive them. And as space and time are non-empirical, so, in the second place, they are necessary; for, though we can think away everything in space and time, these themselves remain as *a priori* grounds of perception. Thirdly, space and time are not concepts, but percepts. For there is only a single space and a single time, and an idea to which only a single object can correspond is a percept. And, again, the relation of space and time in general to particular spaces and times is that of a perceptive whole to the parts included *in* it, not that of a notional whole or class to the individuals included *under* it. Fourthly, space and time, as infinite magnitudes, are percepts; for no concept or notion can contain an infinite number of parts *in* it, though it may, as type, embrace an infinite number of different individuals *under* it.

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[1] *Prolegomena*, §7 [IV, 30 (42)].

[2] III, 56 (18).

[3] IV, 31 (44).

Space and time as *a priori* perceptions solve the problem of mathematical synthesis. But is not the fact of an *a priori* perception itself in need of explanation? That I should know in advance of every special experience that it must be ordered in space or time or both, is surely a noteworthy circumstance. What is the ground of it? Not, certainly, that space and time are innate ideas which the percipient brings into the world ready-made, and on appropriate occasions fuses with the materials given by sense. This interpretation, by which evolutionary biologists and psychologists have found it easy to supersede Kant's 'intuitionism,' reads into the *Critique* a question which had been obsolete since Locke's answer to Descartes in the first book of the *Essay*. On the particular issue involved Kant would most certainly have sided with the empiricists. But it has obsolutely nothing to do with his own doctrine of the *a priori* character of space and time. For though the designation '*a priori* perceptions' comes dangerously near 'innate ideas,' what Kant means by the thing designated is merely a function of the faculty of sense-perception. Space and time are the universal and necessary forms in which all things are perceived: space the form of external perception; time the form primarily of internal perception, but, secondarily, since external objects are appearance to the inner sense, of external perception as well. They are *a priori* perceptions, because, and only because, they are the immanent forms or functions of the faculty of perception. All objects of sense must be perceived according to these forms of sensuous perception. What is true of these forms must hold of the objects perceived in them. Geometry is the science of the laws of space. But space is the form of external phenomena. Therefore, geometry is true of things, and not merely of ideas. The objective validity of the science rests, first, upon the fact that space is the form of all external perception (for what is true of space must then hold of the objects which space makes possible); and, secondly, upon the further fact that the objects whose relations geometry demonstrates are not things as they are in themselves, but appearances due to our (spatial) mode of sensuous representation.

Here, then, is an explanation not merely of the apodictic synthesis, but also of the objective validity of mathematical judgments. When it is proved that the three angles of a triangle taken together are equal to two right angles, the demonstration does not rest upon analysis, for the notion of these angles does not imply the notion of two right angles, which cannot therefore be analytically extracted from it. The proposition is synthetic. But the ground of every synthesis is perception. And as this proposition is universal and necessary, and prior to empirical perception, its ground must be an *a priori* perception. But an *a priori* perception is possible, only if it contains nothing but the form of the sensibility which precedes in use all real impressions received from objects. As space then, which has been proved an *a priori* perception, must be such an immanent form of perceiving, it is manifest that all objects of sense must be perceived as spatial. "Hence it follows that propositions which concern the form of sensuous perception only, are possible and valid for the objects of the senses, as also conversely, that perceptions which are possible *a priori* can never concern any other things than objects of our senses."[1] Geometry is necessarily valid of the phenomenal world, because it is the science of the universal form of that world.

Phenomenalism, then, is demanded by Kant's explanation of mathematics. Geometry can have real validity only on condition that the objects to which it refers are sense appearances of ours, not things in themselves. If objects are only our sense-presentations, it is easy to see that the forms of sense, and the mathematical sciences which specify them, have validity for the entire universe of such objects. But not beyond it in any case; and for it only as a phenomenon or appearance of ours. Nay, if the objective world we perceive were a system of things in themselves, all that is peculiar to mathematical knowledge would vanish. How could we then know anything about things before acquaintance with, or presentation of them? If for our knowledge of the relations of space and time, we had to wait for impressions from spatial and temporal things, how could we possibly be certain that future experiences would confirm the present deliverances of the mathematical sciences? But both the apodicity of geometry, and its anticipation of experience, are accounted for when space is regarded as a universal immanent function of the faculty of perception, in which, therefore, all objects of sense must be received, and of which the internal relations may be determined prior to the reception of any particular object. As the *a priori* character of geometry requires us to interpret space as nothing more than the formal condition of our sensibility, and this requirement was justified by an analysis of space itself, so for the objective validity of geometry it is required that the objects to which it refers shall be phenomena only, that is, not things as they are in themselves, but appearances to us under the universal forms of our sensibility. Can this requirement also be satisfied?

Not only for the sake of the validity of geometry *can* objects be regarded as phenomena; they *must* be so regarded if the analysis of space and time was not erroneous. For the phenomenalism of the objective world is the necessary corollary of the *a priori* character of space and time. As forms of our sensibility, they are conditions of appearances to us, but are not conditions of the possibility of things themselves. Other thinking beings may have other conditions of perception; but neither will these bring them to the essence of things. What things may be in themselves can never possibly be known to us by even the most luminous cognition of their appearance to sense, which alone is what is given to us. Take away the subjective constitution of our sensibility, and all the qualities and all the relations of objects in space and time—nay space and time themselves—would vanish; for all of these are, as mere appearances to sense, incapable of existing in themselves, but only in us. How it may be with things themselves, apart from our receptivity of sense, we know not. We know only what appears to us under the forms of our sensibility.

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[1] *Prolegomena*, § 9 [IV, 31 (44)].

Kant's revolutionary thought is, *dass wir nämlich von den Dingen nur das a priori erkennen was wir selbst in sie legen*, that we know *a priori* of things only what we ourselves put into them. Geometry as a science of *a priori* cognitions is possible because we put space into objects. It has real validity for the world, because we *form* (not create) the world. But this phenomenal world of our forming may have other *a priori* elements than space. If so, these also will be required for the *complete* explanation of the objective validity of mathematics. Now when we come to treat of the second kind or source of knowledge, thought, we shall see that there enter into the phenomenal object *a priori* notions as well as *a priori* perceptions. And with the undue emphasis that came of piece-meal elaboration during many years, the *Analytic* tells us of mathematics, which the *Æsthetic* claims to explain completely, that its "application to experience, and therefore objective validity, nay, even the possibility of such synthetical knowledge *a priori* (the Deduction thereof), rests always on the pure understanding."[1]

Such in substance is Kant's doctrine of the *a priori* forms of sense or the *Transcendental Æsthetic*. The parallelism in his treatment of space and time, which is only a little less complete in the second edition of the *Critique* than in the first,[1] shows that for Kant the two ideas stood on precisely the same footing, though every reader must have been struck with the fact that the illustrations (when choice is possible) are all drawn from space and the science of space. For the ignoring of time there is, however, a very good reason—a reason which suggests a doubt of the value of the entire *Æsthetic*. There is no pure science of time corresponding to geometry as the science of space. And it is not easy to see, if Kant's *a priori* doctrine is correct, why one of the forms of sense perception should yield a system of apodictic truths, and the other, the more general form too, be absolutely barren. When Kant says that geometry is possible and valid, because it rests on an *a priori* perception which is the formal condition of sensibility, I find the explanation to some extent discredited by the fact that another *a priori* perceptive form is incapable of generating a science. Kant seems to have covered up this difference by treating time as one of the conditions of arithmetic and pure mechanics, at least after the first edition of the *Critique*. This view is thus presented in the *Prolegomena :* "Geometry is based upon the pure intuition of space. Arithmetic accomplishes its concept of number by the successive addition of unities in time ; and pure mechanics especially cannot attain its concept of motion without employing the representation of time."[2] Whether there is a science of pure mechanics different from the application of mathematics to the phenomena of motion and equilibrium, is so doubtful an assumption that its truth cannot here be accepted as a premise for some other conclusion. And it is significant that the assumption, which is altogether absent from the *Æsthetic* in its first form, appears but once in the second edition, and then not by citation of particular propositions as examples of the science, but merely under the general description of "as much synthetic cognition *a priori* as is contained in the general theory of motion."[1] It is one thing to say that the notion of motion implies time; it is a very different thing to maintain that the science of motion is based on *a priori* propositions generated from time as geometry from space. A similar criticism must be made on Kant's account of arithmetic. No doubt *we* require time to add unity to unity, but the temporal condition under which we perform the operation, has nothing more to do with the results or the validity of the operation than the muscular movements which enable us to represent it on the blackboard, or the circulation of the blood which makes them possible. The arithmetician, for that matter like the geometer, goes through processes which require time, but what he is determining is, not relations of time, but relations of number. And number is a notion *sui generis*, as little reducible to time as to space.[2] Arithmetic presupposes only the synthesis of numbers. It is perfectly indifferent whether the addition be momentary or successive. Not only therefore is there no pure science based on time (as there ought to be if time is an *a priori* perception, and an *a priori* perception is the ground of geometry), but time is not even a condition, that is, a logical condition, of arithmetic.

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[1] III, 153, 154 (141).

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[1] In the second edition the earlier account of space is divided into two parts—a "metaphysical exposition" (or analysis of space), and "a transcendental exposition" (or explanation of geometry by means of that analysis). The *Prolegomena* probably led him to throw the explanation of geometry into greater relief. When, however, Kant came to time, he left the earlier account unchanged as "metaphysical exposition," and then, for the sake of symmetry, added a "transcendental exposition," under which, however, he has nothing to say, but to refer to the anticipatory paragraph of the "metaphysical exposition." But that paragraph has no time-science to explain, or to parallel with space-science or geometry.

[2] § 10 [IV, 32 (45)].

In fact, in spite of these later accretions, one has only to read the *Æsthetic*, even in the second edition, with ordinary attention to discover that the *a priori* propositions Kant bases on time are those neither of arithmetic nor mechanics. They are as follows: "Time has one dimension only. Different times are not simultaneous (*zugleich*), but successive (*nach einander*)."[3] These principles, it is asserted, depend on the *a priori* character of time, for experience could never have given them their absolute universality nor apodictic certainty. But even granting this impotency of experience, need we fall back on *a priori* perception? Kant argues we must, because there is no other source of synthesis. I have already maintained there is no science made up of pure synthetic judgments which can pretend to rest on time as geometry rests on space. And this contention is fortified by an examination of the specimens Kant here adduces. They are analytic propositions, "trivial" as Locke would call them. The principle that time has only one dimension,[1] when stripped of the spatial metaphor in which it is embodied, can mean only that the time of any one moment is one time, or that several times are not co-existent but successive. And this is precisely what is declared in Kant's second principle, which also finds expression in spatial imagery (*nach einander*), weakened though it is almost beyond recognition. It is the same fact which is asserted in these two different forms. The fact is the tautology that time is time. The forms, where they are not identical, differ only as the logical laws of identity and contradiction, the one implying, 'Now is now,' the other, 'Thens are not now.' But Kant himself prescribes a test which renders all argumentation unnecessary. A proposition is analytic when the predicate can be got from the subject by analysis of it. Reflect then on what is meant by time, and you will find that the predicates of Kant's two axioms are identical with the subjects, more or less complete explications of time. Thus, axioms or principles declaratory of time never get beyond the notion itself, whose existence they merely asseverate in so many different forms.

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[1] III, 66.

[2] The opposite view is maintained by the eminent mathematician, W. R. Hamilton, in his lectures on Quaternions, Dublin, 1853, Preface. Wundt, *Logik*, II, 119.

[3] III, 65 (27).

As there are then no *a priori* synthetic judgments which require as their condition that time shall be an *a priori* form of perception, we are free to examine without prepossession the direct arguments by which Kant claims to have proved this fundamental position of the *Critique*. Whether his reasoning is sound or not, one can readily appreciate the motives which impelled him to the subjectivistic point of view. For if the direction of his entire philosophy was towards the separation of those elements of knowledge which depended on the constitution of the perceiving and thinking intelligence, from those which, independent of it, came from the external object, where could anything be found with less objective reality than time? Conceived as an external entity, time, again, is a creature of self-contradictions. It begets itself, and swallows itself up. In coming to the truth it dies. It is, yet it is not. For the past is gone, and the future is not here, and the present will not stay. How can you predicate objectivity of this insubstantial something which does not believe in its own reality, but flies from it like a spectre? Plato with poetic vision finely called it a moving image of eternity. Aristotle refused to see in it anything but number in motion, while number he regarded as nothing apart from the mind that numbers. And Kant finding time, "judged merely by the notion of a thing, impossible," could interpret it only as "our mode of perceiving things."[1] But Kant has additional motives for resolving time (and space too) into a subjective form of perception. The theological difficulty, which had been brought into prominence by Newton, Locke, and Berkeley, and which had formed the subject of a memorable discussion between Clarke and Leibniz, weighed heavily on Kant's mind. "If we have first of all assumed both time and space as forms of things in themselves, ... as conditions of existence as a whole, they must necessarily be conditions of the existence of God."[2] Nor is this remark, which is one of the additions to the *Æsthetic* in the second edition, merely, as has been suggested, a sop to the theologians who were outraged by the sceptical outcome and emphasis of the *Critique* at its first appearance. Kant had every reason to insist on an achievement which, not only for them, but for him also, was of the first magnitude. If his doctrine of space and time saved thought from what they all considered the monstrosity of a changing and an extended Deity—a God conditioned by space and time—it was in no spirit of accommodation merely, but with the sense of satisfaction born of victory in a great intellectual struggle that Kant mentioned the fact, and, by mentioning it, revealed a motive which assuredly influenced him in his acceptance of the *a priori* doctrine. This is confirmed by numerous passages in the *Reflections*, of which there is here room for one only : "If space and time are regarded as conditions of the existence of the world as it is in itself, ... the divine causality with regard to the world would be determined in time, and God himself would accordingly be inseparable from the world. His causality would fall into a series of causes and effects in time, and God himself, with all else that belongs to the universe as a whole, would be contingent." [1] It is not the worth of this argument that here concerns us, but the fact that in Kant's opinion it led to a conclusion revolting to common sense and sound philosophy, which it was the unique merit of his system to have set aside.

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[1] In his dogmatic-rationalistic period, when everything had in some way to be demonstrated, Kant has a proof of the proposition: "The parts of time do not determine one another reciprocally; the only determinator is the antecedent. Consequently time has only one dimension." Erdmann's *Kant's Reflexionen*, II, 113 (no. 336).

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[1] III, 79 (S. 167).

[2] *Reflexionen*, II, 115 (No. 374).

Turning now from the motives to the logical force of Kant's reasoning, we have as his first position the following : "Time is not an empirical concept (*Begriff*) which has been abstracted from any experience (*Erfahrung*), for neither co-existence nor succession would enter into our perception (*Wahrnehmung*) if the representation (*Vorstellung*) of time were not *a priori* implied."[2]

It will be observed that the thesis here to be demonstrated is exclusively negative. Time is *not* a concept derived from experience. What it may be is left to the later proofs to determine. It is the more necessary to call attention to the fact, because, on the supposition that Kant is here proving that time is an *a priori* form of perception, we should have to follow Ueberweg and others in declaring the argument invalid. It is in fact unfortunate that even in a subordinate sentence the term *a priori* has been introduced.[3] For whether it connote "universal and necessary" or "prior to experience," it cannot as yet be predicated of time. The argument for necessity follows in the next paragraph. And the experience, which is here taken as a starting-point, must be made up of perceptions of whose temporal relations there either is or is not a consciousness. If there is such a consciousness, time is already implied in, and so not derived from, experience. If there is not such a consciousness, no mental chemistry can extract it from the perceptions. But this only entitles you to say that your consciousness of time is an original element of your experience, an element underived from any other element, though not prior to all. As to the question whether time has objective reality or not, that is a question not in the least affected by this analysis, which, at bottom, means only that time is a fundamental constituent of experience, which is logically prior to every particular consciousness of succession or co-existence. The fact is that we have perceptions of co-existence and succession; and Kant's sole contention is that these imply a time consciousness, which, therefore, cannot be derived from them. This is not only true, it is a truism. But however trifling the value of Kant's analysis may be to us, it bears the historical significance of first disclosing the *petitio principii* in Leibniz's account of time as "the universal order of changes," changes being treated as something different from time.[1] Thus it is in relation to modes of philosophy now largely obsolete, resting as they do on a mythological psychology, to rationalism on the one hand, and not less to sensationalism on the other, that the full worth of Kant's first thesis is to be properly estimated.

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[1] *Reflexionen*, II, 116 (No. 376).

[2] III, 64–5 (27).

[3] It does not occur in the parallel exposition of space.

The consciousness of time is not then to be derived from experience of succession and co-existence. But it remains to be proved that it is not derived from *any* experience. This Kant attempts in the second stage of his argumentation: Time is a necessary representation (*Vorstellung*) on which all perceptions (*Anschauungen*) depend. We cannot take away time from phenomena (*Erscheinungen*) in general, though we can well take away phenomena out of time. Time, therefore, is given *a priori*.[2]

But is it a fact that we can do away with all events and objects and leave to thought an empty time? Time without things that succeed or co-exist is a word merely. Whoever could suppress all contents of time would have brought about also the complete collapse of time itself. But in reality Kant's possibility is less feasible than his impossibility. We *can* take away time from phenomena. At least, we can, while attending to their qualities or spatial constitution, abstract from their relations to time. But we can never, while thinking of their time-relations, abstract from everything else, for it must always be a phenomenon of some kind that has time-relations to another. In a word, you may think of phenomena without thinking of time, but you cannot think of time without thinking of phenomena. Kant would, however, probably retort that, though we may, by a conscious effort, direct our attention away from time, yet anterior to such reflection, every phenomenon of our experience has fallen into a definite point of time, which on that account must be regarded as a "necessary representation on which all perceptions depend." But whence this 'necessary'? You know simply that as a matter of fact time is a mode of perception which accompanies all our presentations, internal as well as external. You are not thence entitled to assert it *must* do so. From the fact that it *does* do so, we may conclude that it is not a mere accidental constituent of perception, which might at one time be present and at another absent. It is a constant element in experience. We do not know that it is necessary. We are sure it cannot be evacuated of phenomena and yet remain an entity by itself. Accordingly, the grounds on which Kant rested its *a priori* character have fallen completely away. All that remains is this fact of observation, that the time-consciousness is the most general element in our experience, attaching as it does to internal states and to external objects. But, in a theory of knowledge, that does not entitle time to any other prerogative over its allies. Kant rent in twain the seamless garment of experience, and, finding both warp and woof in the texture, fell upon the curious idea that the one was contingent and the other necessary, necessary even to the maintenance of its partner. For on what other ground is it claimed that time "is given *a priori*," that "in time alone is reality of phenomena possible," and that though "all phenomena may vanish, time itself (as the general condition of their possibility) cannot be done away with?"[1]

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[1] See Baumann's *Raum, Zeit, und Mathematik*, II, 91–95.

[2] III, 65 (27).

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[1] III, 65 (27).

The source of Kant's confusion is his absolute distinction between 'form' and 'matter.' Time (and the same holds of space) is the form of phenomena; what corresponds to sensation is their matter. "And as that in which sensations are arranged and placed in certain forms cannot itself be sensation, it follows that, though the matter of all phenomena is given us *a posteriori*, the form of them must lie ready in the mind *a priori*, and must therefore be capable of being considered as separate from all sensations."[1] There would be force in this argument if, while we felt or perceived the contents of objects, we did not feel or perceive their relations. Or, expressed in the most sensationalist phraseology, the co-existence and succession of feelings make as distinct impressions upon consciousness as the feelings themselves. It is true that our knowledge of such relations is more than mere passive affection, but precisely the same remark holds with regard to our knowledge of the feelings. So that here again, as more than once before, we have been forced to the conclusion that, when Kant's arbitrary walls of partition are broken down, what he calls *a priori* has nothing to distinguish it from what is *a posteriori*.

In the first proof Kant aimed to show the priority of the time-consciousness to every perception of temporal relations, and in the second its absolute indispensableness to experience of every kind. He has still to determine which 'stem' of knowledge it belongs to, sense or understanding. And the remainder of his argumentation (including the time-axioms we have already examined) is to the effect that time is a pure perception.

"Time is not a discursive, or what is called a general concept, but a pure (form of sensuous)[2] perception. Different parts are parts only of one and the same time, and the representation which can be produced by a single object only is called a perception. . . . . . Every definite quantity of time is possible only by limitations of one time which forms the foundation of all times.

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[1] III, 56 (18, S. 139).

[2] The three words I have enclosed are not found in the parallel proof for space, and are ignored in the proof that follows them here. Did Kant find it more plausible to say space was a pure perception than to say time was?

Therefore, the whole representation of time cannot be given by concepts (for in that case the partial representations come first), but it must be founded on immediate perception."[1]

A single representation (*Vorstellung*) in consciousness, produced by a single object, is called a percept. Does that entitle you to describe time as a percept, even assuming it a single representation? The derivation from an external source, which is a characteristic of ordinary percepts, fails altogether in Kant's account of time. There is left, then, the claim (1) that it is single, and (2) that it is the antecedent substratum in which all particular times are determined. Can time, then, on these grounds, be declared a pure perception?

That time is an empty form in which particular times are determined, is a proposition that cannot even be realized in thought without the aid of that spatial coloring in virtue of which Kant deemed himself justified in transferring to time all the arguments he had already established with regard to space. Cease to think of time as a straight line extending infinitely in two opposite directions, and what background is there for marking off particular times on? In Kant's contention, as so often happens, the thinker is the slave of his own abstractions. The real *prius* on the subjective side is a unity of self-consciousness in the series of its affections. The idea of succession, however, is more than a succession of ideas. It could not originate without memory. It implies the union of different and separate ideas, as well as the consciousness of their separation, for both of which reproduction is necessary. For its development there is also required the presence of interrupted ideas, ideas markedly different or suddenly arising. Originally time is a discrete picture, light points over a field of darkness. Only when reflection shows that the same intervals might have been filled by different ideational processes, differently divided, do we reach the conception of a continuous flow of time which we forthwith represent and hypostatize as a straight line. This notion, like other notions, has no real object correspondent to it. It is the generic form of all the specific temporal relations of events. But it differs from other notions in this, that, though one of the most general, it is at the same time markedly concrete. Kant named it on this account a perception. It is really a conception which refers immediately to perceptions. Its singleness, its want of divers characteristics, must be conceded to Kant; but an abstraction need not be individualized or turned into a perception because its content is unitary. Most notions it is true, have several marks (man, *e.g.*, including rationality, configuration, etc.), but plurality of characteristics is not essential, as will be seen by considering notions like matter, force, and being. And wherever a term connotes but one attribute, it may be said that all the individuals designated by that term are included *in* the abstraction rather than *under* it. All particular beings may thus be described as determinations in the one being, just as Kant, *mutatis mutandis,* describes times and spaces. This peculiarity of the notion of time, on which Kant lays such stress, is due, therefore, altogether to the simplicity of its content, which, however, is not without parallel in other universally accepted notions. Nor is the perceptive character of time an inference from our postulate of its infinitude. It lies in the nature of the notion of time that we should go from one idea to another without absolute cessation. Every idea, every relation of ideas, carries with it the impress of time. And as abstract time is represented by a straight line, it readily takes on the characteristic of infinite addibility, which primarily belongs to quantity.

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[1] III, 65–6 (29–30, S. 148–9).

The arguments by which Kant sought to prove that time is a necessary *a priori* perception have one and all shown themselves inadequate. With this undermining of his premises must fall also the conclusions founded upon them. Nevertheless, from their importance to the Kantian system, and their significance for all subsequent philosophy, these conclusions deserve a separate consideration.

Let us then begin with assuming that the Kantian exposition of time (which we have demonstrated erroneous) is actually correct. The next question, as the *Prolegomena* and *Reflexionen* happily bring out, is, How are *a priori* perceptions possible?[1] Since they are not empirical, there is nothing else they can represent but the subjective conditions under which the object is perceived. If space and time are *a priori* perceptions, they must be mere representations of the forms in which the senses perceive objects. They must be forms of sensuous perception. In the letter to Herz, dated February 21, 1772, we have the first designation of time as the "form of the inner sense."[1] Elsewhere Kant offers a proof of this settlement of the problem, which implies a point of view altogether foreign to the argument of the *Æsthetic*, though it seems to be Kant's ultimate position on the subject. "That time is the form of the inner sense," he writes in the *Reflexionen*, "is clear from this, that though we may think of it (*in Gedanken haben*), we can never perceive (*anschauen*) it as something external."[2] And the second part of the *Critique* not only everywhere implies this view of space and time, but explicitly declares "they cannot in themselves be perceived."[3] How then can they be *perceptions?* And what can the *Æsthetic* possibly mean? Kant relieves us by an arbitrary definition, which seems to make his argumentation superfluous. "There is no absolute space or time. Pure perception signifies here, not something which is perceived, but the pure formal condition which precedes the phenomenon."[4] This is taken to imply that space and time must be subjective only.[5] The question, How are *a priori* perceptions possible? is answered by the definition of them as formal, purely subjective conditions of perceiving. It need scarcely, therefore, have been asked.

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[1] *Prolegomena,* §9 [IV, 31 (44)]; *Kant's Reflexionen,* II, 121–2 (no. 395).

However Kant effects the transition from *a priori* perceptions to formal conditions of perceiving, it is on this latter interpretation of space and time that the phenomenalism (or, as it might also be called, the agnosticism) of the critical philosophy is founded. "Time," Kant maintains, "is *nothing but* the form of internal sense, that is, of the perceiving of ourselves and our inner states."[6] It has nothing to do with things themselves. Not till they come before the mind as presentations do they catch a reflection of the subjective image of time, which in this way may be called the formal condition of external as well as of internal phenomena. But time is not a thing by itself, nor a determination of a thing by itself. It is "nothing but the subjective condition" of perceiving. And, like colored spectacles, it turns the object of our knowledge into appearance to us. We never, therefore, can know things as they are in themselves. Yet so far as mere appearances to us must be in time, the subjective form has an objective significance. Though it is no part of real objects, we put it into phenomenal objects, which are all that we can ever know. As the *form of our perceiving*, time can have no outside counterpart. But the matter it moulds into phenomena must come from without, though the form in which we receive it hides from us the nature of things in themselves. Even ourselves we cannot perceive as we are, but only as we appear to ourselves through the form of the inner sense, that is, through time. Space is the form in which we perceive external objects, time the form in which we perceive ourselves and everything else too.

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[1] VIII, 693.

[2] II, 118 (no. 384).

[3] III, 159 (S. 273).

[4] *Reflexionen*, II, 126 (no. 413).

[5] II, 123 (no. 402).

[6] III, 67 (29).

Hold the Kantian dogmas of the opposition of form and matter in perception, and make space and time mere perceptive forms, and you cannot escape Kant's phenomenalistic result.

Yet it is a result that can satisfy no one. Kant protested against confusion of his ideality of space and time with the "mystical and visionary idealism of Berkeley." But Berkeley's position is rigorously logical and consistent. Holding the objects of perception to be our own ideas, he denied the independent existence of material things. But, as the aggregations of ideas we call objects appear, disappear, and reappear, without our own volition, we must seek their cause in a will which, from the plenitude of its effects, cannot be deemed less than infinite. All this is clear and well concatenated. But Kant's doctrine "concerns not the existence of things, since," he says, "it never came into my head to doubt them."[1] It is the things that reveal themselves in appearances to us. They are the causes or grounds of the given 'matter' of our phenomena, of which space and time are the mind-made forms. Accordingly, you cannot enter the critical philosophy without things in themselves. Neither, however, can you stay there with them; for Kant afterwards restricted causation (free will apart) to phenomena. Thus freed from their real grounds, appearances have nothing to distinguish them from illusions. This result, though contrary to Kant's intention, is an inevitable consequence of his thought. In spite of his energetic protest, it is his own logic that turns the *Erscheinung* into *Schein*.

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[1] *Prolegomena*, § 13 [IV, 42 (61)].

And the things in themselves? They stand in a timeless background stripped of all the vestments and trappings of space. What their rights to spatial investiture may be, must be considered when we come to treat of Kant's doctrine of space. Here, where we are dealing with time only, what demands attention is the conception of a timeless universe. Idealistic theories of perception had not infrequently resolved solid and extended bodies into mere subjective perceptions. But though the material world might be an insubstantial pageant in the fancy of man, it had seldom occurred to phenomenalists before Kant to treat the temporal flow of our ideas as a merely human form of perceiving, and no real determination belonging to the ideational current itself. Neither within us, nor without us, according to Kant, is reality characterized by time. But a world in which there is no time, is a world in which nothing happens. From the reality of change, Mendelssohn and Lambert argued, in reply to Kant, to the reality of time. Kant's rejoinder[1] does not touch the nerve of the argument. It ignores the fact that without experience of change there is no consciousness of time. He hides from himself the difficulties to which his theory gives rise, by persistently refusing to follow up the metaphysical problems he starts. For the rest he cherishes such a view of the real world as his moral consciousness demands. And if that removes it from change (as it is removed in ethics by the doctrine of intelligible character), he sees no incompatibility in making the phenomenal world the theatre of perpetual unrest. Nothing in reality is ever changed; things only appear to us as changing. Thus, by a magic stroke, the contrary currents of philosophy are brought together. Parmenides's doctrine of changeless Being, and Heracleitos's doctrine of ceaseless Becoming, find their truth (as Hegel would say) in Kant's doctrine of the ideality of time!

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[1] III, 69 (S. 153).

But it is only in words. The difficulties of a real coalescence from Kant's standpoint are insuperable. And we must return to the starting-point. Kant has proved nothing but the truism that time is a mode of perceiving. So is color. But both alike have conditions in the real world. They are not like their conditions, as Locke clearly showed of color, but they are the counterparts of them. Neither can be described as "nothing but" a subjective mode of perception. That dogma falls with the insight that Kant's opposition of 'form' and 'matter' is altogether untenable. The mind produces everything that enters into the perception of an object, but it is also conditioned from without. Moreover, if we ask what qualities must belong to things themselves, if they are to awaken us to the idea of a continuous flow of time, the answer is that there must be a constancy in their presentations to us. Suppose a universe in which there was nothing abiding, then the objective foundation of our idea of time would be gone. On the other hand, a universe in which nothing was changeable would equally fail as objective ground of the idea. What is needed is a constancy of change. And this includes constant abiding objects of consciousness and constant laws of change; the one as fixed points for the combination of separate ideas, the other as suggestive of something more than subjective reproduction—of an actual objective ground.

For the crude philosophy of naïve reflection, time is purely objective. For the so-called critical philosophy of Kant, it was purely subjective. For the scientific philosophy of to-day, it is a mode of perceiving (subjective), which has its conditions in the real world (objective). There would be no ideas of time without a consciousness capable of forming them, as ours is in virtue of its own unity and its attribute of memory. But neither would there be ideas of time, unless to this subjective condition there was added the objective condition of constancy amid change in the real world. Kant rightly saw that time was subjective. His inference that we can know nothing about the real world rests not on that subjectivity, but on the treatment of time as a universal form, furnished by the mind alone, for the reception of matter given from without. Considered as a subjective possession, apart from the doctrine of form and matter, time really warrants certain inferences regarding the external world as objective ground of its own origination.

Kant set out to prove that time was a necessary *a priori* perception. His arguments have been shown untenable. With them falls the inference, based on the doctrine of *a priori* perceptive forms, that knowledge never reaches reality, but, being intercepted by its own forms, is restricted to sense-appearances. This subjectivistic conclusion, whose premises had been thus destroyed, we have also examined on its own account. Its metaphysical implication is a real universe of changeless existence, like the Being of the Eleatics. That *we* should be making all the noise and stir in a world of eternal rest and silence is, however, incredible. Change must be real. Without it there would be no perception of time, much less of that *a priori* perception by the aid of which Kant despoils change of its reality. So that subjective phenomenalism can neither rest on the support Kant provided for it, nor has it vitality enough to stand on its own legs. Furthermore, an alternative account of time has been outlined, in which none of these objectionable consequences are involved. All that is left of Kant's doctrine of time and of his inferences from it, is that subjective time is not identical with objective time.

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